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Photometric Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For
Elemental LED Inc, DBA Diode LED

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Catalog Number
DI-12V-FV30-W8016

Order Number
10665784
Test Number
895402

Test Date

2015-02-04 - 2015-02-09

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: LED strip
Lamp: 18 white LEDs
Mounting: Surface

Luminaire



Luminaire Characteristics

Luminous Length: 12.00 in.
Luminous Width: 0.3800 in.

Summary of Results

Integrating Sphere

Total Output: 99 Lumens
Efficacy: 72.9 lm/w
CCT: 3194 K
CRI (Ra): 85.9

Distribution

Total Output: 99.57 Lumens
Efficacy: 71.8 lm/w
Maximum Candela: 31.43 Candela

Electrical Data at 12VDC

Test Temperature: 25.3 °C
Voltage: 12.00 VDC
Current: 0.1127 A
Power: 1.352 W



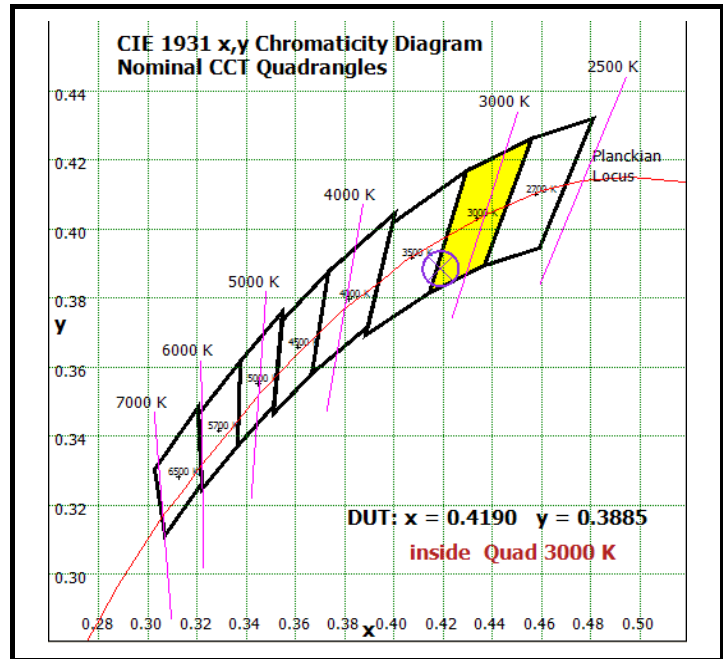
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	12.00 VDC	0.1127 A	1.352 W	N / A	N / A	N / A

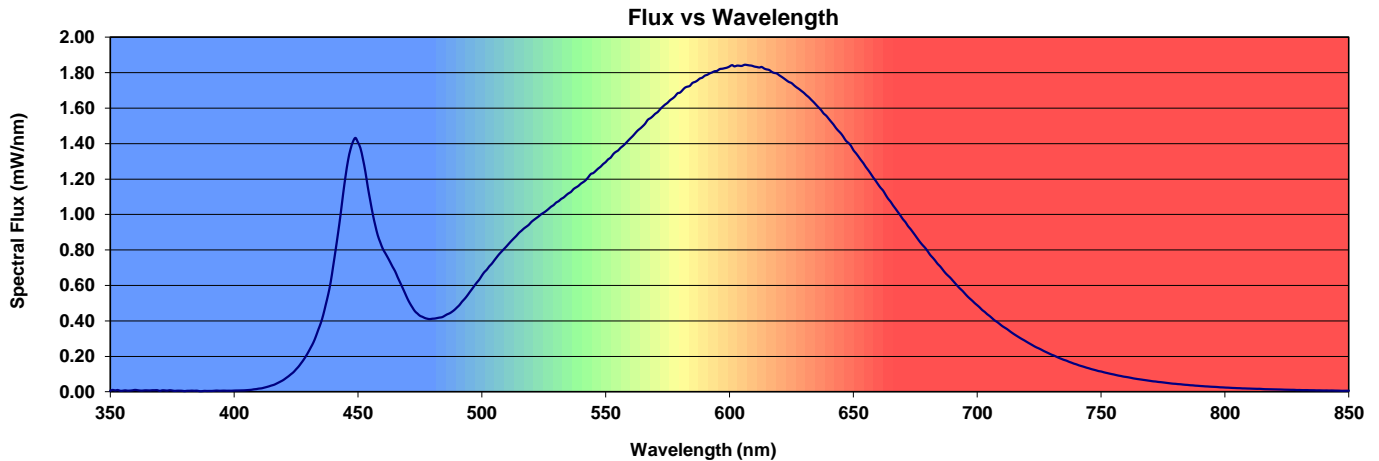
Summary of Results

Luminous Flux:	99 Lumens
Efficacy:	72.9 lm/w
CCT:	3194 K
CRI (Ra):	85.9
CRI (R9):	33.1
Chromaticity (x):	0.4190
Chromaticity (y):	0.3885
Chromaticity (u):	0.2456
Chromaticity (v):	0.3416
Chromaticity (u')	0.2456
Chromaticity (v')	0.5124
Duv:	-0.0039



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
85.9	85.0	91.7	95.6	83.9	84.7	88.2	86.9	70.8	33.1	80.0	82.5	72.1	86.5	97.5





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	12.00 VDC	0.1155 A	1.386 W	N / A	N / A	N / A

Summary of Results

Spacing Criteria

0-180: 1.23
90-270: 1.34

Total Lumen Output:

100 Lumens

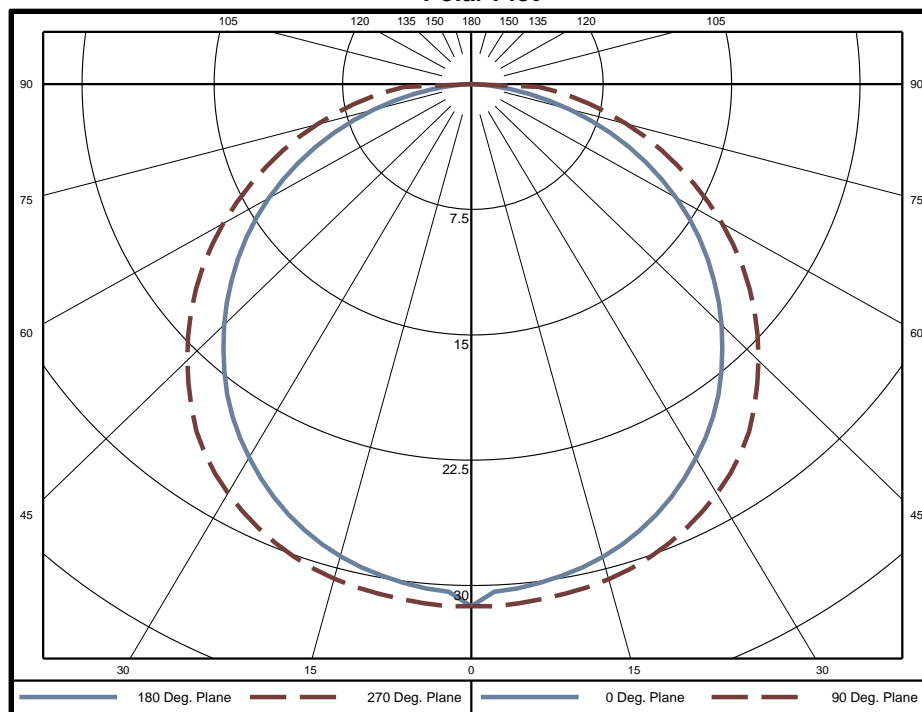
Luminaire Efficacy:

71.8 lm/w

Maximum Candela:

31 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.8	0.8%	60-65	7.0	7.0%	120-125	0.0	0.0%
5-10	2.2	2.2%	65-70	6.0	6.0%	125-130	0.0	0.0%
10-15	3.6	3.6%	70-75	4.9	4.9%	130-135	0.0	0.0%
15-20	4.9	5.0%	75-80	3.6	3.7%	135-140	0.0	0.0%
20-25	6.1	6.1%	80-85	2.5	2.5%	140-145	0.0	0.0%
25-30	7.1	7.1%	85-90	1.2	1.2%	145-150	0.0	0.0%
30-35	7.9	7.9%	90-95	0.0	0.0%	150-155	0.0	0.0%
35-40	8.4	8.4%	95-100	0.0	0.0%	155-160	0.0	0.0%
40-45	8.6	8.7%	100-105	0.0	0.0%	160-165	0.0	0.0%
45-50	8.6	8.7%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	8.3	8.4%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	7.8	7.8%	115-120	0.0	0.0%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	41.0	41.2%
0-60	74.4	74.7%
0-90	99.6	100.0%
90-180	0.0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)															
	0	22.5	45	67.5	90	113	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
5	30	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31
10	30	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31
15	29	30	31	31	31	31	31	30	29	30	31	31	31	31	31	30
20	28	29	30	30	30	30	30	29	28	29	30	30	30	30	30	29
25	27	28	29	29	29	29	29	28	27	28	29	29	29	29	29	28
30	26	27	28	28	28	28	28	27	26	27	28	28	28	28	28	27
35	24	25	26	27	27	27	26	25	24	25	26	27	27	27	26	25
40	22	24	25	25	25	25	25	24	22	24	25	25	25	25	25	24
45	20	22	23	23	23	23	23	22	20	22	23	23	23	23	23	22
50	18	20	21	21	21	21	21	20	18	20	21	21	21	21	21	20
55	16	17	19	19	19	19	19	17	16	17	19	19	19	19	19	17
60	14	15	16	16	17	16	16	15	14	15	16	16	17	16	16	15
65	11	12	13	14	14	14	13	12	11	12	13	14	14	14	13	12
70	9	10	11	11	12	11	11	10	9	10	11	11	12	11	11	10
75	6	7	8	9	9	9	8	7	6	7	8	9	9	9	8	7
80	3	5	6	7	7	7	6	5	3	5	6	7	7	7	6	5
85	1	3	4	5	5	5	4	3	1	3	4	5	5	5	4	3
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	10620	10620	10620
45	9810	11010	11210
55	9504	10960	11260
65	8958	10820	11340
75	7736	10980	12120
85	4866	14830	18790



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	107	102	97	93	105	100	96	92	96	92	89	92	89	86	88	86	83	81
2	97	88	81	75	94	86	80	74	83	77	72	79	75	70	76	72	69	67
3	88	77	68	62	86	75	67	61	72	66	60	70	64	59	67	62	58	55
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	61	51	44	72	59	51	44	57	49	43	55	48	43	53	47	43	40
6	68	54	45	38	66	53	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	35	30	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	27	37	31	26	25
10	51	38	30	24	50	37	30	24	36	29	24	35	29	24	34	28	24	22

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
1.00	31.2	1.31
2.00	7.81	2.61
3.00	3.47	3.92
4.00	1.95	5.22
6.00	0.867	7.84
8.00	0.488	10.4
10.0	0.312	13.1

Cone of Light Plot

